

Claims

What is claimed is:

1. A mobile impact crusher assembly for crushing objects, comprising:
 - a frame defining an enclosure with an exterior surface and an interior space, an inlet opening to said space and an outlet opening disposed generally opposite said inlet opening, said frame defining a holding section of said interior space and adjacent 5 said inlet opening, said frame defining a crushing section of said interior space and communicating with said holding section and said outlet opening;
 - a connection member configured for pivotal attachment to a vehicle, said connection member being carried by said frame;
 - a rotor rotationally mounted relative to said frame and disposed in said interior 10 space;
 - at least a first crushing bar carried by said rotor;
 - at least a first impact plate carried by said frame, and disposed in said crushing section;
 - a driving mechanism in communication with said rotor to rotate said rotor;
- 15 wherein said connection member is configured so as to permit said frame to be manipulated by the vehicle in order for objects to pass through said inlet opening into said holding section, and further manipulated by the vehicle in order to discharge crushed objects out of said outlet opening of said frame; and
- 20 a guard configured to be selectively positioned to block said inlet opening of said frame and prevent at least some objects from exiting said frame through said inlet opening.
2. The mobile impact crusher assembly of claim 1, wherein said guard has a hinge configured to allow said guard to pivot with respect to the vehicle.

3. The mobile impact crusher assembly of claim 1, wherein said guard has a support member configured for rigid attachment to the vehicle.
4. The mobile impact crusher assembly of claim 1, wherein said guard has a support frame that supports an elastomeric dampener, said elastomeric dampener configured for dampening noise associated with the crushing of objects.
5. The mobile impact crusher assembly of claim 1, wherein said guard has a pair of clevises, each said clevis having a pivot pin configured to allow said guard to pivot with respect to the vehicle.
6. The mobile impact crusher assembly of claim 1, wherein said guard has at least one cable configured for attachment to the vehicle for supporting said guard when said guard is not blocking said inlet opening of said frame.
7. The mobile impact crusher assembly of claim 1, wherein said guard has a pair of cables attached thereto, one said cable being connected to each of a pair of guard cable connection members, and wherein said guard has a single vehicle cable connection member attached to said pair of cables and configured for attachment to the vehicle, wherein said cables support said guard.
8. The mobile impact crusher assembly of claim 7, wherein said pair of cables are one single cable.
9. The mobile impact crusher assembly of claim 1, wherein said guard has an elastomeric dampener forming a plurality of curtains and cross-curtains arranged in a crisscross configuration.
10. The mobile impact crusher assembly of claim 1, further comprising at least one spray jet attached to said frame, said spray jet configured for spraying water

proximate to said outlet opening of said frame for suppression of dust brought about by the crushing of objects.

11. The mobile impact crusher assembly of claim 1, further comprising:
 - a water tank configured for attachment to the vehicle;
 - at least one spray jet attached to said frame proximate to said outlet opening of said frame;

5 a water line placing said water tank into fluid communication with said spray jet; and

a water pump in fluid communication with said water line and configured for forcing water through said water line and out of said spray jet in order to suppress dust brought about by the crushing of objects.
12. The mobile impact crusher assembly of claim 1, further comprising a hydraulic cylinder configured for attachment to the vehicle and engaging said guard, said hydraulic cylinder configured for selectively positioning said guard to block said inlet opening of said frame.
13. The mobile impact crusher assembly of claim 1, wherein said guard has a closed top face and three adjacent closed side faces defining a depth of said guard, said guard having an open bottom face for receiving objects therein to be blocked by said guard, said guard having a fourth side face openable by said frame.
14. The mobile impact crusher assembly of claim 1, wherein said guard is configured for at least momentarily conforming to the shape of objects protruding from said inlet opening of said frame.

15. A mobile impact crusher assembly for crushing objects, comprising:
a frame defining an enclosure with an exterior surface and an interior space,
said interior space defining a holding section and a crushing section and configured
for attachment to a vehicle capable of moving said frame and at least partially rotating
5 said frame, said frame having an inlet opening to accept objects therein and having
an outlet opening to allow crushed objects to be removed from said frame;
a rotor rotationally mounted relative to said frame, said rotor configured to be
rotated for crushing objects held in said frame; and
a guard configured to be selectively positioned to block said inlet opening of
10 said frame and prevent at least some objects from exiting said frame through said
inlet opening.

16. The mobile impact crusher assembly of claim 15, wherein said guard has a
hinge configured to allow said guard to pivot with respect to the vehicle.

17. The mobile impact crusher assembly of claim 15, wherein said guard has a
support member configured for rigid attachment to the vehicle.

18. The mobile impact crusher assembly of claim 15, wherein said guard has an
elastomeric dampener and defines a support frame that supports said elastomeric
dampener.

19. The mobile impact crusher assembly of claim 15, wherein said guard has a pair
of clevises, each said clevis having a pivot pin configured to allow said guard to pivot
with respect to the vehicle.

20. The mobile impact crusher assembly of claim 15, wherein said guard has at
least one cable configured for attachment to the vehicle for supporting said guard.

21. The mobile impact crusher assembly of claim 15, wherein said guard has an elastomeric dampener forming a plurality of curtains and cross-curtains arranged in a crisscross configuration.
22. The mobile impact crusher assembly of claim 15, further comprising a spray jet attached to said frame.
23. The mobile impact crusher assembly of claim 15, further comprising:
 - a water tank configured for attachment to the vehicle;
 - at least one spray jet attached to said frame;
 - a water line placing said water tank into fluid communication with said spray jet;5 and
 - a water pump in fluid communication with said water line and configured for forcing water through said water line and out of said spray jet.
24. The mobile impact crusher assembly of claim 15, further comprising a hydraulic cylinder engaging said guard and used for selectively positioning said guard.
25. The mobile impact crusher assembly of claim 15, wherein said guard has a closed top face and three adjacent closed side faces defining a depth of said guard, said guard having an open bottom face for receiving objects therein to be blocked by said guard, said guard having a fourth side face openable by said frame.
26. The mobile impact crusher assembly of claim 15, wherein said guard is configured for at least momentarily conforming to the shape of objects protruding from said inlet opening of said frame.
27. A mobile impact crusher assembly for crushing objects, comprising:
 - a frame defining an enclosure with an exterior surface and an interior space, said interior space defining a holding section and a crushing section and configured

for attachment to a vehicle capable of moving said frame and at least partially rotating
5 said frame, said frame having an inlet opening to accept objects therein and having
an outlet opening to allow crushed objects to be removed from said frame;

a rotor rotationally mounted relative to said frame, said rotor configured to be
rotated for crushing objects held in said frame; and

10 at least one spray jet attached to said frame, said spray jet configured for
spraying fluid to suppress dust brought about by the crushing of objects.

28. The mobile impact crusher assembly of claim 27, further comprising:

a water tank configured for attachment to the vehicle;

a water line placing said water tank into fluid communication with said spray jet;
and

5 a water pump in fluid communication with said water line and configured for
forcing water through said water line and out of said spray jet.

29. A mobile impact crusher assembly for crushing objects, comprising:

an excavator having a source of hydraulic power;

a frame defining an enclosure with an exterior surface and an interior space,
said interior space defining a holding section and a crushing section, said frame
5 attached to said excavator, said excavator capable of pivoting said frame relative to
said excavator;

a rotor rotationally mounted in said frame, said rotor having at least one
crushing bar located thereon;

10 a driving mechanism connected to said rotor and configured for driving said
rotor in order to rotate said rotor, said driving mechanism being connected to said
source of hydraulic power of said excavator;

at least one impact plate carried by said frame and configured and disposed so
that at least some of the objects that are thrown by said at least one rotating crushing
bar are thrown against said at least one impact plate and crushed;

15 a screen attachment attached to said excavator, said excavator being
configured to position said frame for depositing crushed objects into said screen
attachment for further processing; and

16 a guard pivotally attached to said excavator and configured to block said frame
such that at least some of the objects are prevented from exiting said frame out of
20 said holding section.